

Appl. No.: 09/881,597
Amendment dated January 3, 2006
Reply to Office Action of November 2, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously Presented): A method for providing authored content, from device-independent content generated by a content author, to any of a plurality of requesting user network terminal devices, each requesting user network terminal device having means for delivering at least a portion of the authored content received, the presentation of authored content so delivered being dependent on feature values of the requesting network terminal device, said method comprising the steps of:

associating one or more of the device feature values with a requesting user network terminal device in response to said requesting user network terminal device transmitting a request for the authored content; and

converting the device-independent content into a device-specific content adapted to said requesting user network terminal device, wherein said converting is based on annotation of the authored content with markup information corresponding to one or more device feature values,

such that said device-specific content provides for a display on said requesting user network terminal device in a format as intended by the content author.

Claim 2 (original): The method of claim 1 further comprising the step of specifying a feature-value set for the plurality of user network terminal devices, said feature-value set including a set of selected device features with one or more discrete feature values assigned to each said selected device feature, each said selected device feature selected from the features of the plurality of user network terminal devices in accordance with a pre-established criterion.

Claim 3 (original): The method of claim 2 wherein said set of selected device features comprises a member of the group consisting of display size, aspect ratio, display line count, color capability, graphics capability, variable size text capability, different font capability, input capability, and input bandwidth.

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Claim 4 (original): The method of claim 2 wherein said pre-established criterion includes a determination that a particular said selected device feature affects the manner in which the authored content is presented.

Claim 5 (original): The method of claim 2 wherein said feature value set comprises discrete values assigned to selected features of a generic network terminal device.

Claim 6 (original): The method of claim 5 wherein said generic network terminal device comprises a set of device features selected from the display features of the plurality of user network terminal devices.

Claim 7 (canceled):

Claim 8 (Previously Presented): The method of claim 1 wherein said step of converting the device-independent content comprises the step of invoking said markup information corresponding to the device feature values associated with said requesting user network terminal device.

Claim 9 (Previously Presented): The method of claim 1 wherein said step of converting the device-independent content comprises the step of removing said markup information from said device-independent content.

Claim 10 (Previously Presented): The method of claim 1 further comprising the steps of:
identifying that content in said authored content which requires author annotation; and
embedding meta-data into said content requiring author annotation, said meta-data based
on the feature values.

Claim 11 (Previously Presented): The method of claim 1 wherein said requesting user network terminal device comprises at least one of a wireless telephone and a personal digital assistant.

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Claim 12 (original): The method of claim 1 further comprising the step of identifying said requesting user network terminal device prior to said step of associating one or more of the device feature display values.

Claim 13 (original): The method of claim 12 wherein said step of identifying said requesting user network terminal device comprises the step of reading network terminal device information contained in said request.

Claim 14 (original): The method of claim 1 wherein said step of converting the device independent content comprises the steps of:

determining the array of display pixels available in said requesting user network terminal device from the feature values;

comparing said array of display pixels with an array of image pixels corresponding to an authored content image;

selecting said authored content image for display in said requesting user network terminal device if said array of image pixels does not exceed said array of display pixels; and

suppressing said authored content image from display if said array of image pixels does exceed said array of display pixels.

Claims 15 (original): The method of claim 1 wherein said step of converting the device independent content comprises the steps of:

determining an aspect ratio for said requesting user network terminal device from the feature values;

sending authored content marked with an attribute of square to said requesting user network terminal device if said aspect ratio is square;

sending authored content marked with an attribute of portrait to said requesting user network terminal device if said aspect ratio is portrait; and

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sending authored content marked with an attribute of landscape to said requesting user network terminal device if said aspect ratio is landscape.

Claim 16 (original): The method of claim 1 wherein said step of converting the device independent content comprises the steps of:

determining that said authored content is marked as having a uni-axis free form characteristic;

identifying the number of segments supported by the display in said requesting user network terminal device;

concatenating a number of rows for sending to said requesting user network terminal device if said uni-axis free form characteristic includes a list characteristic, wherein said number of rows corresponds to said number of segments supported; and

concatenating a number of columns for sending to said requesting user network terminal device if said uni-axis free form characteristic includes a column characteristic, wherein said number of columns corresponds to said number of segments supported.

Claim 17 (original): The method of claim 1 wherein said step of converting the device independent content comprises the steps of:

determining that said authored content is marked as having bi-axially free form characteristic;

identifying the character count supported by a display in said requesting user network terminal device;

sending to said requesting user network terminal device a segment of authored content, wherein the character count in said segment corresponds to said character count supported by said display.

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Claim 18 (Currently Amended): A communication system for providing authored content to any of a plurality of requesting user network terminal devices, each requesting user network terminal device having means for delivering at least a portion of the authored content received, the presentation of authored content so delivered being dependent on features of the requesting user network terminal device, said communication system comprising:

- a network terminal device detector for receiving a display request from the requesting user network terminal device and providing therefrom identification of the requesting user network terminal device;
- an origin server for receiving said display request and, in response thereto, providing device-independent content corresponding to said display request, wherein said device-independent content comprises markup information providing information for displaying said authored content in compliance with author intent on a plurality of devices having different display characteristics;
- a transformer for associating one or more user network terminal device feature values with said requesting user network terminal device in response to receiving said user network terminal device identification from said terminal device detector, for receiving said device-independent content from said origin server, and for transforming said device-independent content into device-specific content formatted for the requesting user network terminal device.

Claim 19 (canceled)

Claim 20 (original): The communication system of claim 18 further comprising a device profile repository accessible by said network terminal device detector, said device profile repository including a feature-value set for the requesting user network terminal device, said feature-value set including a set of selected user network terminal device features with one or more discrete device feature values assigned to each said selected user network terminal device feature.

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Claim 21 (original): The communication system of claim 18 further comprising a content repository accessible by said origin server, said content repository for storing annotated authored content generated by the content author whereby said origin server provides device-independent content from said annotated authored content.

Claim 22 (original): The communication system of claim 18 wherein said selected user network terminal device feature is selected from the features of the plurality of requesting user network terminal devices in accordance with a pre-established criterion.

Claim 23 (original): The communication system of claim 18 wherein said set of selected device features comprises a member of the group consisting of display size, aspect ratio, display line count, color capability, graphics capability, variable size text capability, different font capability, and input capability.

Claim 24 (Previously Presented): The communication system of claim 18 wherein said requesting user network terminal device comprises at least one of a wireless telephone and a personal digital assistant.

Claim 25 (Currently Amended): A method of presenting content to a terminal device having particular display characteristics, said method comprising the steps of:

receiving a request for content from the terminal device, wherein said content comprises information for displaying said content in compliance with author intent on a plurality of devices having different display characteristics;

based on said request, identifying display characteristics associated with the terminal device;

converting the content into a device-dependent format compatible with said identified display characteristics; and

transmitting said device-dependent formatted content to the terminal device.

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Claim 26 (original): The method of claim 25 wherein said step of converting comprises the step of converting the content by interpreting metatags embedded in the content.

Claim 27 (original): The method of claim 25 wherein said step of converting comprises the step of converting the content into a landscape-formatted display format if the terminal device has a landscape-formatted display, and converting the content into a portrait-formatted display format if the terminal device has a portrait-formatted display.

Claim 28 (Currently Amended): The method of claim 25 wherein said step of converting comprises the step of converting the content into a first aspect ratio if the terminal device has said first aspect ratio, and converting the content into a second aspect ratio ~~of~~ if the terminal device has said second aspect ratio.

Claim 29 (original): The method of claim 25 wherein said step of converting comprises the step of converting the content into a small-sized image if the terminal device accommodates only small-sized images, and converting the content into a large-sized image if the terminal device accommodates large-sized images.

Claim 30 (original): The method of claim 25 further comprising the step of annotating the content with meta-data to indicate the manner in which portions of the content should be represented on a plurality of different terminal devices, the terminal devices having mutually incompatible display characteristics.

Claim 31 (original): The method of claim 25 wherein said step of converting comprises the step of performing a best-fit match between said display characteristics and one of a plurality of display formats.

Claim 32 (Currently Amended): A method for providing device-specific content to a requesting data processing device from device-independent content generated by a content author, said method comprising steps of:

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(a) identifying one or more display feature values associated with displaying content on a requesting data processing device in response to said requesting data processing device transmitting a request for the device-independent content; and

(b) converting the device-independent content into the device-specific content based on annotations within the device independent content and based on the one or more display feature values,

wherein said annotations specify an intent of the content author for the one or more display feature values on a plurality of devices having different display characteristics.

Claim 33 (Previously Presented): The method of claim 32, wherein step (a) comprises determining a device type of the requesting data processing device, and looking up the one or more display feature values based on the device type.

Claim 34 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to a display size of the requesting data processing device.

Claim 35 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to an aspect ratio of the requesting data processing device.

Claim 36 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to a display line count of the requesting data processing device.

Claim 37 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to a color capability of the requesting data processing device.

Claim 38 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to a variable size text capability of the requesting data processing device.

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Claim 39 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to a multiple font capability of the requesting data processing device.

Claim 40 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to an input capability of the requesting data processing device.

Claim 41 (Previously Presented): The method of claim 32 wherein one of said one or more display feature values corresponds to an input bandwidth of the requesting data processing device.

Claim 42 (canceled)

Claim 43 (Previously Presented): The method of claim 42, wherein said altering step comprises removing the annotations from the device-independent content.

Claim 44 (Previously Presented): The method of claim 32, wherein said requesting data processing device comprises a wireless telephone.

Claim 45 (Previously Presented): The method of claim 32 wherein step (b) comprises the steps of:

- determining an array of display pixels available in said requesting data processing device based on the one or more display feature values;
- comparing said array of display pixels with an array of image pixels corresponding to a content image;
- selecting said content image for display in said requesting data processing device if said array of image pixels does not exceed said array of display pixels; and

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suppressing said content image from display if said array of image pixels does exceed said array of display pixels.

Claims 46 (Previously Presented): The method of claim 32, wherein step (b) comprises steps of:
determining an aspect ratio for said requesting data processing device based on the one or more display feature values;
sending device-specific content in the determined aspect ratio to said data processing terminal device.

Claim 47 (Previously Presented): The method of claim 46, wherein said aspect ratio comprises a square aspect ratio.

Claim 48 (Previously Presented): The method of claim 46, wherein said aspect ratio comprises a portrait aspect ratio.

Claim 49 (Previously Presented): The method of claim 46, wherein said aspect ratio comprises a landscape aspect ratio.